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Packaging for Food Products and the Like

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This invention relates to a casing as packaging for food products or the like consisting of a rubber hydrochloride film sheet, which is drawn and shrunk uniformly in all directions when exposed to heat.

For packaging such products, it is preferable to use transparent and flexible casings such as those made of rubber hydrochloride, vulcanized rubber, polyethylene, cellophane or the like which are odorless and tasteless themselves and are impermeable to air, moisture and other impurities and should ensure a long shelf life while maintaining the quality of the packaged product and which also conform easily to the shape of the material packaged in them with a shrink fit. This process primarily takes place more rapidly in a direction opposite the direction of

drawing before curing, i.e., when there is a preceding drawing step in the longitudinal direction, the shrinkage occurs only in this direction and not laterally.

In addition, it is known that to prevent subsequent oxidation of the contents, it is essential to remove all traces of air from the packaging and to prevent air along with other impurities from penetrating into the packaging. This has not always been achieved satisfactorily in the past by the traditional methods which could be implemented only at great cost and which usually required equipment that takes up a great deal of space.

For example, after wrapping the upper part around a nozzle in a suitable device, a plastic bag containing the product inserted into it is evacuated and then simply twisted manually at the top to make it airtight. In addition, even with a string attached to a ham, a container or bag made of a thin flexible rubber material can be twisted at its open end at the top, then shrunk, forming gathered sections, while evacuating down to the packing inside the container. After applying a clamp or fastening means, e.g., in the form of a tape, close to the twisted end, the container material is made to soften, e.g., by exposing it to hot air, whereupon it adapts to the shape of the contents, expelling air. The encasing here may also be performed by guiding the product to be treated through a heated chamber so that the bag is pressed against the surface of the packing material during the softening operation.

With another known embodiment, the packing material together with the thin, sealed, heat-shrinkable casing consisting of a plastic film is passed through a chamber with heating, where it is brought in contact with a hot liquid rising like a cascade or falling onto it perpendicularly in the form of a thick concentrated wall, so that the closed casing conforms to the shape of its contents under the pressure exerted by the falling fluid.

For shrink fitting tubular casings around meat products, for example, the end edges of two films of the same length but different widths and thicknesses placed one over the other, optionally bonded together by a cement or solvent or sealed at the end edges, are overlapped. After introducing the material for storage and inserting a closing or holding insert that runs along the casing, the casing shrinks when immersed in a hot liquid, causing the air to escape like a bubble between the overlapped end edges and shrinking to conform to the meat product packaged in it.

However, the application of packaging films and the like and sealing them tightly should be performed automatically in a simple and reliable manner, making the overall operation much less expensive.

Therefore, this invention relates to a packaging for foods and nonfood items such as coffee, tobacco and tea which consists of a rubber hydrochloride film sheet which is simultaneously shrunk in all directions by the influence of heat after having been drawn in multiple directions and which is shaped into a casing which holds the product to be packaged, said casing having only a longitudinal seam and a weldable opening as well as an outlet valve which is in one piece with the casing. The casing is designed according to this invention so that the valve has a tube (16) which is open at the end, its length being greater than the diameter and this tube being shrunk in many directions and immediately under the influence of heat at or above 70°C.

Figure 1 shows a view of the new casing;

Figure 2 shows a sectional view along line 2-2 from Figure 1 in the direction of the arrows;

Figure 3 shows a sectional view along line 3-3 from Figure 1 in the direction of the arrows;

Figure 4 shows a perspective view of a finished packaging in which the casing is shrunk around a food product, e.g., a ham, and

Figure 5 shows a view of an outlet valve after being shrunk to form the final closure.

After folding the film sheet to the casing, its edges are interrupted without seams due to the fact that only a central welded longitudinal seam 12 is provided. The film sheet is thus folded onto itself, forming the seam 12 and an end opening 14.

After being shaped, the casing 10 may be essentially rectangular in shape except for the protruding parts 16 at the end, which are preferably on both sides of the welded seam 18 after folding and sealing. These parts which have unseamed edges 20 are then the outlet valves, only one of which is necessary under some circumstances.

With the two valves 16 shown here as an example, the edge 22 is arranged at an angle to the edge 20 but it may also run parallel to the latter.

After folding the casing and producing the welded seams 12 and 18 and the valves 16, there are three closed sides and one open side 14.

After welding the opening 14 through which the material to be stored has been inserted, the tips [illegible] 24 of each valve opening 16 remain as individual openings of the packaging and after immersion of the casing in a heated medium, e.g., a bath with a temperature of water close to its boiling point or preferably lower, first with its seam 14 and then up to its outlet valves 16, the casing with the valves shrinks, completely eliminating the air in all directions, until it is closed at 26 only after complete evacuation (Figure 5). The period of time required to accomplish this is generally only about 3 seconds.

If desired, identifying tags or plates or price tags or a brand logo 28 of any color on paper or on any other material may be applied to the material being stored in the casing (Figure 4) so that it is easily visible through the casing.

PATENT CLAIMS

1. A packaging for foods and food products or the like consisting of a rubber hydrochloride film sheet which is shrunk uniformly in all directions simultaneously under the influence of heat after being drawn in multiple directions and which is shaped to form a casing which accommodates the product to be packaged, said casing having only one longitudinal seam and a weldable opening as well as an outlet valve made in one piece, **characterized in that** the valve has a tubing (16) which has an open end and has a length greater than the diameter and which is shrunk in many directions immediately under the influence of heat at and above a temperature of 70°C.

2. The packaging according to Claim 1, **characterized in that** the air valve tube has a diameter on the bottom part which is at least twice as large as that on its open end.

3. The packaging according to Claim 1, **characterized in that** the length of the tube is at least four times greater than its smallest diameter and it has a smaller diameter at its tip than at its butt end with the casing.

Publications considered in evaluating patentability:

U.S. Patents Nos. 2,071,300, 2,681,757, 2,745,419, 2,801,180.

Plus one page of drawings

